

SEWER HOUSE CONNECTION FORCE MAIN AT QUINOBEQUIN & EAST QUINOBEQUIN RD.

THIS WORKSHEET IS PROVIDED AS A COURTESY. THE CONTRACTOR IS RESPONSIBLE FOR CORRELATING THE INFORMATION SHOWN HERE WITH THE CONTRACT DOCUMENTS.

ITEM	DESCRIPTION	QUAN.	UNIT	EST UNIT COST	EXTENSION
1	MOBILIZATION (LAYOUT SERVICES, VIDEO FILE, NOTIFICATIONS, MEETINGS, ETC.)	1	LS		
2	MANUFACTURED SILT SACK FOR CATCHBASIN (SEDIMENTATION CONTROL)	6	EA		
3	TREE PROTECTION	8	EA		
4	SAW-CUTTING OF PAVEMENT	600	LF		
5	GENERAL EXCAVATION & DISPOSAL OF MATERIAL(S)	NA	NA	NA	NA
6	EXPLORATORY EXCAVATION	40	CY		
7	EXCAVATION & DISPOSAL OF UNSUITABLE SOIL MATERIAL(S) (INCLUSIVE OF EXTRA-DEPTH WORK)	10	CY		
8	REMOVAL & DISPOSAL OF ROCK	5	CY		
9	SHEATHING, SHORING AND/OR PLATING OF TRENCHES & EXCAVATIONS	1	LS		
10	DEWATERING OPERATION	3	DAY		
11	F&I HAY BALES & PRE-FABRICATED SILT FENCE (FOR DEWATERING & STORAGE CONTAINMENT)	75	LF		
12	5' INSIDE DIAMETER PRE-CAST H20-RATED SEWER MANHOLE FOR GRINDER/PUMP ASSEMBLY (WITH FLEXIBLE BOOTS) (EXCLUDING FRAME & COVER)	13	VF		
13	STANDARD 4' INSIDE DIAMETER PRE-CAST H20-RATED SEWER MANHOLE FOR HOUSE CONNECTIO1N (WITH FLEXIBLE BOOTS) (EXCLUDING FRAME & COVER)	18	VF		
14	F&I A NON-STANDARD OVERSIZED SPECIALTY SEWER MANHOLE FRAME & COVER	1	SET		
15	F&I A STANDARD SIZE SEWER MANHOLE FRAME & COVER	1	SET		
16	FIELD ASSEMBLED DUPLEX SEWER GRINDER/PUMP SYSTEM (COMPLETE-IN-PLACE)	1	LS		
16.1	REPLACEMENT GRINDER/PUMP (TO BE PLACED IN STORAGE)	2	EA		
17	DUPLEX '4 FLOAT/4 POSITION' CONTROL PANEL (INCLUSIVE OF CONNECTION TO PUMP STATION SERVICE PANEL)	1	LS		
18	1 1/2" SCHEDULE 80 PVC CONDUIT (WITH TAPE) FOR ELECTRICAL & COMMUNICATION END USE	375	LF		
19	1 1/2" SCHEDULE 80 PVC CONDUIT '90 DEG. LONG SWEEP' FOR ELECTRICAL & COMMUNICATION END USE	8	EA		
20	1 1/2" SCHEDULE 80 PVC CONDUIT (WITH TAPE) FOR SEWER FORCE MAIN	575	LF		
21	PRE-CAST CONCRETE HANDHOLE /PULL BOX' WITH COVER	2	EA		
22	F-T-L 6" SDR 35 P.V.C. SEWER PIPE (FOR SEWER SERVICE/HOUSE CONNECTION)	140	LF		
23	'STRONG-BACK' FLEXIBLE COUPLING @ 5" PIPE x 6" SDR35 P.V.C. PIPE (FOR SEWER SERVICE/HOUSE CONNECTION TRANSITION)	2	EA		
24	SAND FOR THE BEDDING OF PIPES & CONDUITS	185	TON		
25	3/4" FRACTURED CRUSHED STONE	5	TON		
26	GRAVEL FURNISHED FROM OUTSIDE THE SITE FOR GENERAL USE	20	TON		
27	DENSE GRADED CRUSHED STONE	100	TON		
28	2" BITUMINOUS CONCRETE FOR TEMPORARY PATCH	25	TON		
29	4" TYPE I-1 BITUMINOUS CONCRETE FOR PERMANENT PATCH TRENCH RESURFACING (PLACED IN TWO COURSES)	60	TON		
30	ADJUST A PRE-EXISTING SERVICE OR UTILITY GATE BOX	2	EA		
31	RESET CURB	10	LF		
32	CEMENT CONCRETE WITH LAMPBLACK (@ 2POUNDS/C.Y.) FOR PANEL REPAIR	8	CY		
33	LOAM BORDER & LAWN RESTORATION	10	SY		
34	DUST CONTROL (CHEMICAL TREATMENT)	500	LB		
35	MATERIALS TESTING ALLOWANCE	\$500	ALL	\$500	\$500
36	MISCELLANEOUS WORK ALLOWANCE (ENGINEERS DISCRETIONARY FUND)	\$2,000	ALL	\$2,000	\$2,000
37	ALLOWANCE FOR PAYMENT OF POLICE OFFICERS (MONIES TO BE PAID THRU AN INTER-DEPARTMENTAL BILLING PROGRAM)	\$10,000	ALL	\$10,000	\$10,000
38	FURNISH & MOUNT SAFETY & SPECIALTY SIGNBOARDS (INCLUDING THE POST SYSTEM)	60	SF		
39	WARNING AND/OR SAFETY DEVICES FOR THE CONTROL OF CONSTRUCTION OPERATIONS	1	LS		

TOTAL

TOTAL + %





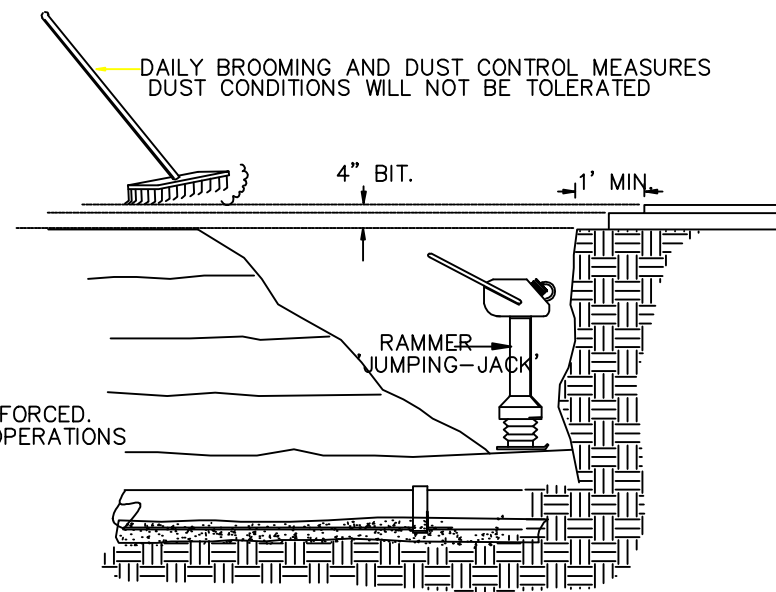
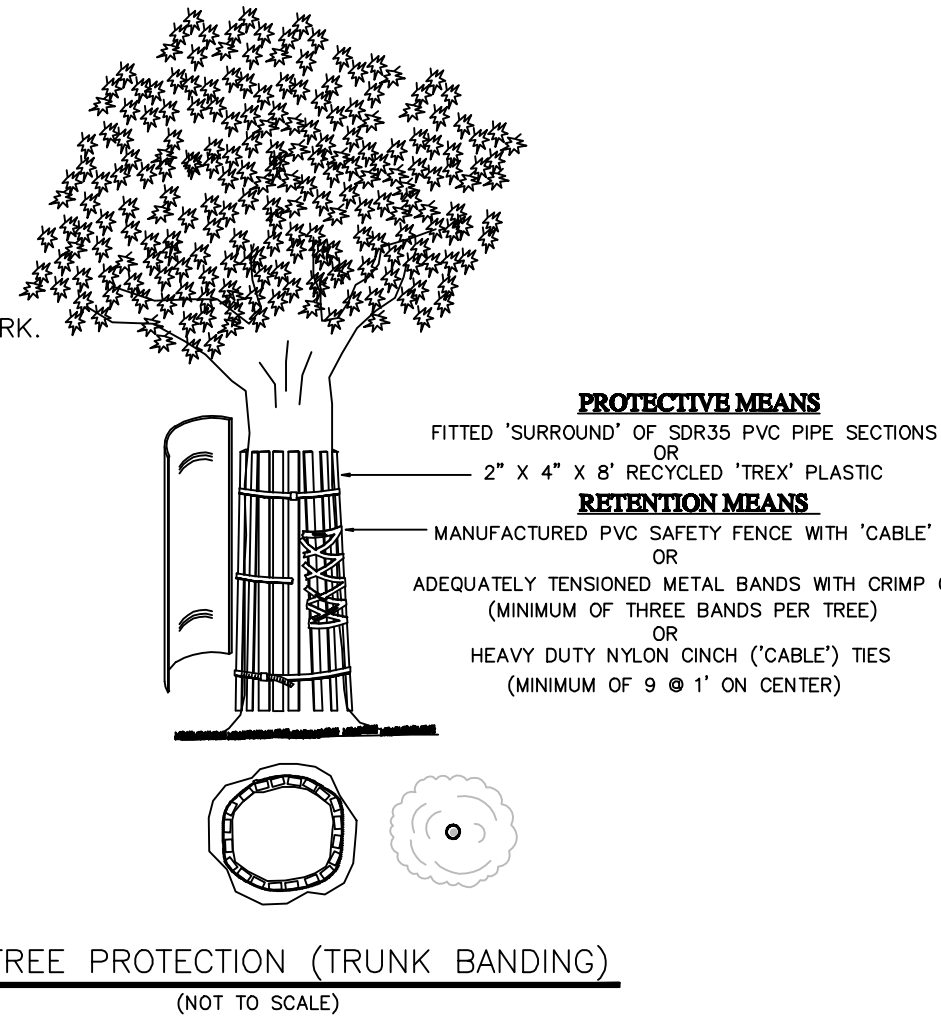
THE CONTRACTOR SHALL SUBMIT WITH HIS BID SUPPORTING CATALOG CUTS FOR A FULLY CONFIGURED FORCE MAIN SEWER PUMP SYSTEM AS GENERALIZED @ DETAIL PS ON SHEET 2. THE CITY RESERVES THE RIGHT TO EVALUATE EACH COMPONENT PRIOR TO AWARDING THE CONTRACT.

## PROCESS AND CONSTRUCTION NOTES:

1. THE CONTRACTOR IS REQUIRED TO PROVIDE A SUPERINTENDENT OF OPERATIONS, A QUALIFIED INDIVIDUAL WHO WILL BE ON-SITE AT ALL TIMES TO ADDRESS THE CRITICAL NEEDS OF THE PROJECT. IN ADDITION, A 7 DAY/24 HOUR PHONE NUMBER MUST BE LISTED WITH THE CITY TO ADDRESS ALL PROJECT BUSINESS AND/OR EMERGENCY CALLS.
2. HOURS OF OPERATIONS ARE SET BY LAW. NO MACHINES OR EQUIPMENT ARE TO BE ACTIVATED BEFORE 7:00 A.M. & NO WORK IS TO EXTEND BEYOND 4:30 P.M.. NO WEEKEND OR HOLIDAY WORK, OR OTHER OFF HOUR WORK, IS ALLOWED WITHOUT SPECIAL PERMISSION.
3. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ARRANGEMENTS WITH ALL ABUTTERS FOR THE PURPOSE OF ACCESSING THE PROJECT ZONE, OR HE SHALL OTHERWISE CONFINED HIS ACTIVITIES TO THE EASEMENT LIMITS.
4. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING, COMMUNICATING DIRECTLY WITH, AND SUBSEQUENTLY ADDRESSING THE NEEDS OF THE VISUALLY IMPAIRED, AND/OR THE PHYSICALLY CHALLENGED WHO RESIDE IN OR ABOUT THE PROJECT ZONE. AREAS DISTURBED BEYOND THE LIMIT OF THE CONTRACT SHALL BE REPAIRED AND/OR RESTORED AT THE CONTRACTORS OWN EXPENSE AND LEFT IN A CONDITION COMPARABLE TO THE ORIGINAL, ALL OF WHICH IS SUBJECT TO THE ENGINEERS APPROVAL.
5. THE CONTRACTOR SHALL MAKE A VIDEO AND/OR PHOTOGRAPHIC RECORD OF EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND/OR AS THE ACTIVITIES PROGRESS. THE CONTRACTOR IS RESPONSIBLE FOR DEFENDING AND/OR RESPONDING TO ALL DAMAGE CLAIMS. A COPY OF THE VIDEO AND ANY SUPPLEMENTAL PHOTOGRAPHS SHALL BE SUBMITTED TO THE CITY ENGINEER UPON REQUEST.
6. THE FINAL DETERMINATION OF THE SCOPE OF PROJECT, AS WELL AS THE PROJECT LIMIT(S), SHALL BE ESTABLISHED IN THE FIELD BY THE ENGINEER.
7. THE UNDERGROUND PIPES & STRUCTURES SHOWN ON THESE PLANS ARE TAKEN FROM THE BEST AVAILABLE DEPARTMENTAL SOURCES. THE CITY DOES NOT GUARANTEE EITHER THE ACCURACY, OR THE COMPLETENESS, OF THIS INFORMATION. THE CONTRACTOR MUST MAKE HIS OWN INVESTIGATIONS OF THE AREA(S) PRIOR TO MOBILIZATION.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING CONDITIONS AND IS OBLIGATED TO IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES OF PLAN VERSUS ACTUAL FIELD CONDITIONS, AS WELL AS ANY SUBSTANTIAL DIFFERENCES IN ESTIMATED QUANTITIES.
9. THE CONTRACTOR SHALL CONTACT DIG SAFE @ 1-888-344-7233 AND SHALL NOT OCCUPY ANY AREA(S) UNTIL THE AUTHORIZATION DATE HAS BEEN ATTAINED.
10. FOR FURTHER UTILITY SUPPORT, AND EMERGENCY RESPONSE REQUESTS, THE CONTRACTOR IS ADVISED TO CONTACT AND ESTABLISH PROTOCOL WITH ALL ORGANIZATIONS HAVING UTILITIES IN THE PUBLIC WAY INCLUSIVE OF : KEYSpan GAS, N-STAR ELECTRIC, VERIZON, AT&T CABLE, RCN CABLE, NEWTON WATER, NEWTON SEWER & DRAIN.
11. ANY UTILITY RELOCATIONS, AND/OR UTILITY ISSUES, ARE TO BE DIRECTLY ADDRESSED AND COORDINATED BY THE CONTRACTOR WITH THE RESPECTIVE UTILITY COMPANY AND ANY ADJOINING CITY OR TOWN WHENEVER APPLICABLE.
12. ANY DAMAGE TO THE EXISTING SEWER, DRAIN AND/OR WATER SYSTEMS WHICH IS NOT SPECIFICALLY DUE TO THE REMOVAL OF IMPACTED ROCK, IS TO BE REPAIRED AND/OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE UNLESS OTHERWISE NOTED. IMPACTED ROCK CONDITIONS ARE TO BE VERIFIED BY THE ENGINEER PRIOR TO ROCK REMOVAL.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH U.S OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA) STANDARDS, AND MASSACHUSETTS DEPARTMENT OF LABOR OCCUPATIONAL SAFETY STANDARDS IN THE PERFORMANCE OF THIS WORK.
14. THE CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY ASPECTS OF THIS PROJECT, AND COMPLIANCE WITH THE MOST CURRENT OSHA REGULATIONS.
15. THE SEWER LINE GRADES, ONCE ADJUSTED, SHALL BE INSTALLED WITH USE OF A TRANSIT/LEVEL, AND THE CONTRACTOR IS FURTHER RESPONSIBLE FOR THE LAYOUT, LINE AND GRADE OF ALL OTHER MANHOLES, PIPES AND APPURTENANCES.
16. THE CONTRACTOR IS REQUIRED TO TAKE AS-BUILT TIES AS THE WORK PROGRESSES. THIS ACTIVITY IS TO TAKE PLACE UNDER THE DIRECT SUPERVISION OF THE ENGINEER AND ALL RECORDS ARE TO BE SUBMITTED ON A DAILY BASIS. IN ADDITION, THE CONTRACTOR IS TO SUBMIT A FINAL AS-BUILT PLAN ON A FORMAT ACCEPTABLE TO THE ENGINEER.
17. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION, POSTING AND SUBSEQUENT REMOVAL OF ALL TEMPORARY PARKING BANS. SIGNS SHALL NOT BE POSTED ON TREES. THE CONTRACTOR IS TO APPRISE THE CITY OF NEWTON TRAFFIC DIVISION OF EACH POSTING.
18. ALL EXCESS EXCAVATION MATERIAL AND/OR WASTE ITEMS, , OF ANY TYPE OR MATERIAL, INCLUSIVE OF SATURATED SOILS, ARE TO BE DISPOSED OF AT A LEGAL DUMPING SITE AT THE CONTRACTORS OWN EXPENSE. NO DISPOSAL SITE SHALL BE PROVIDED BY THE CITY.
19. ALL SITE GENERATED DEBRIS AND REFUSE IS TO BE REMOVED FROM THE SITE ON A DAILY BASIS. AT NO TIME SHALL PASSAGE ALONG ANY SIDEWALK AND/OR DRIVEWAY BE IMPEDED/BLOCKED BY STOCKPILED MATERIAL(S).
20. THE STAGING AND STOCKPILING AREA, EVEN THOUGH ARRANGED BY THE CONTRACTOR, IS TO BE KEPT IN A CONDITION ACCEPTABLE TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY ASPECTS RELATIVE TO THIS AREA.
21. ALL EXCAVATIONS ARE TO BE BACKFILLED IN LIFTS, WITH EACH SUCCESSIVE LIFT BEING COMPACTED ONLY WITH APPROVED COMPACTORS AND/OR PNEUMATICALLY POWERED TAMPING BITS, UNTIL SUCH TIME AS THE OPTIMUM 95% DENSITY COMPACTION REQUIREMENTS ARE OBTAINED. THIS IS STRICTLY ENFORCED TO ENSURE LONG-TERM STRUCTURAL INTEGRITY OF THE WORK.
22. FOR FURTHER DETAILS NOT SHOWN ON THESE PLANS SEE CITY OF NEWTON GENERAL CONSTRUCTION DETAILS @ [www.ci.newton.ma.us/dpw/engin/General Construction Detail.pdf](http://www.ci.newton.ma.us/dpw/engin/General%20Construction%20Detail.pdf)
23. ALL 'SHORT-TERM' STEEL TRENCH PLATES, (UP TO FIVE CALENDAR DAYS OF USE), ARE TO BE SECURED IN SUCH A MANNER SO AS TO PREVENT MOVEMENT AND/OR 'RATTLING'. ALL 'LONG-TERM' PLATES ARE TO BE RECESSED INTO THE EXISTING ROADWAY.
24. THE CONTRACTOR IS TO MAINTAIN AND/OR PROVIDE EMERGENCY VEHICLE ACCESS THROUGHOUT EACH PROJECT AREA. IN ADDITION, NO TRAFFIC DELAY IS TO EXCEED FIVE MINUTES IN DURATION ON ANY ARTERIAL ROAD. ALL SECONDARY ROADS MUST BE APPROPRIATELY DETOURED, MARKED, OR ADDITIONALLY SIGNED TO PREVENT DELAYS AND/OR CONFUSION.
25. IF DETOURING IS ALLOWED OR DIRECTED BY THE ENGINEER ALL SECONDARY ROADS MUST BE APPROPRIATELY DETOURED, MARKED, OR ADDITIONALLY SIGNED TO PREVENT DELAYS AND/OR DIRECTIONAL CONFUSION.
26. BITUMINOUS CONCRETE APPLIED TO THE ROADWAY SHALL ONLY BE APPLIED IN BRIGHT SUNSHINE OR PARTLY CLOUDY WEATHER WITHOUT THE THREAT OF RAIN. THE CONTRACTOR IS NOT TO SCHEDULE BITUMINOUS ROADWAY APPLICATION UNLESS SUCH FAVORABLE WEATHER CONDITIONS ARE PROFESSIONALLY FORECAST BY A RECOGNIZED WEATHER AGENCY. FURTHER, NO BITUMINOUS CONCRETE SHALL BE APPLIED UPON A RESIDUALLY WET SURFACE, AND NO BITUMINOUS CONCRETE WHICH HAS BEEN PRE-MATURELY COOLED BY RAIN, EITHER ON THE TRUCK OR ON THE ROADWAY, WILL BE ACCEPTED.
27. . THE CONTRACTOR IS TO EXERCISE DUE CARE WHEN WORKING IN THE PROXIMITY OF STREET TREES. NO SCUFFING OF THE TRUNK WILL BE ALLOWED. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR TREE TRUNK AND/OR EXCESSIVE ROOT SYSTEM DAMAGE
  - TREE PROTECTION MEASURES WILL BE ORDERED IF TREE TRUNK DAMAGE IS IN EVIDENCE. THE COST OF THESE PROTECTIVE MEASURES ARE TO BE BORNE BY THE CONTRACTOR. PROTECTIVE MEASURES SHALL BE PERFORMED IN A MANNER ACCEPTABLE TO THE ENGINEER.
  - EXISTING TREE ROOTS ARE NOT TO BE DISTURBED UNLESS AUTHORIZED BY THE ENGINEER AND/OR THE SUPERINTENDENT OF FORESTRY/TREE WARDEN. THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY EXCAVATING IN AND ABOUT EXISTING ROOT SYSTEMS.
  - NO TREES ARE TO BE REMOVED, NOR SHALL ANY TAP ROOTS LARGER THAN 2" IN DIAMETER BE REMOVED, UNTIL SUCH WORK HAS BEEN DIRECTLY AUTHORIZED BY THE CITY OF NEWTON TREE WARDEN OR HIS DESIGNEE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THIS WORK.
28. POLICE DETAILS ARE TO BE COORDINATED BY THE CONTRACTOR.

## OPERATIONAL NOTES:

- BEFORE THE COMMENCEMENT OF ANY SITE ACTIVITIES THE CONTRACTOR SHALL INSTALL TREE PROTECTION TO EACH TREE LOCATED ALONG THE QUINOBEQUIN ROAD RESERVATION WHICH IS LOCATED WITHIN 50' OF THE PROPOSED (FORCE MAIN) SMH, AND TO ALL OTHER TREES WHERE THE EXCAVATION AND/OR CONSTRUCTION RELATED ACTIVITIES ARE TO BE PERFORMED WITHIN THE DRIP-LINE OF ANY GIVEN TREE HAVING A TRUNK DIAMETER OF 6" OR MORE. FURTHER, THE ENGINEER RESERVES THE RIGHT TO DIRECT THE CONTRACTOR TO PROTECT ANY OTHER TREE AS FIELD CONDITIONS MAY NECESSITATE. HOWEVER, THE CONTRACTOR SHALL ALWAYS BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO ANY TREE DUE TO HIS OPERATIONS.
- DETOURING ALONG THE QUINOBEQUIN ROAD CORRIDOR WILL NOT BE ALLOWED
- AN EXPLORATORY EXCAVATION, TO VERIFY ACTUAL INTERCEPT GRADE OF THE SHC'S, MUST BE PERFORMED PRIOR TO THE COMMENCEMENT OF OPERATIONS. THE PROPOSED GRADES SHALL BE ADJUSTED ACCORDINGLY.
- NOTE A: THE EXISTING SEWER HOUSE CONNECTIONS (SHC'S) SHALL NOT BE CUT AND PLUGGED UNTIL THE PROPOSED SEWER PUMP/GRINDER SYSTEM HAS BEEN FULLY INSTALLED, TESTED, IS COMPLETELY OPERATIONAL, AND HAS BEEN ACCEPTED BY ALL CONCERNED PARTIES



TYPICAL ROADWAY TRENCH REPAIR & PAVEMENT SECTION  
(NOT TO SCALE)

## TRAFFIC CONTROL INFORMATION

### DETOURING ALONG THE QUINOBEQUIN ROAD CORRIDOR WILL NOT BE ALLOWED

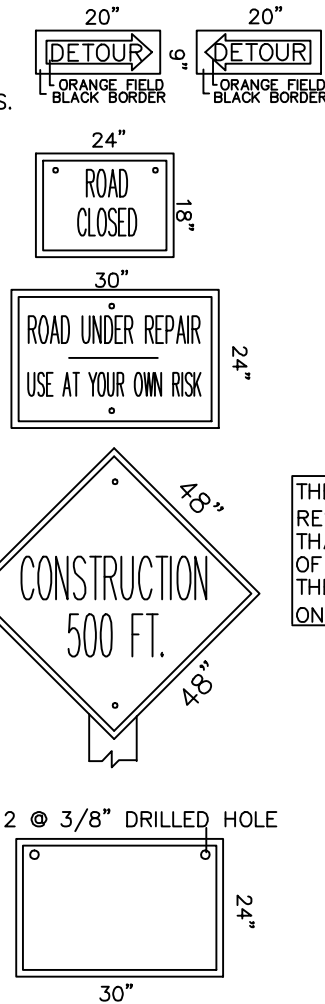
#### SIGN REQUIREMENTS & LEGEND:

- SIGNS ARE TO BE FIRMLY FASTENED TO THE RESPECTIVE SUPPORTS AND/OR DRUMS AND ARE TO COMPLY WITH THE DIRECTIVES OUTLINED IN THE GENERAL CONSTRUCTION DETAILS.
- POST MOUNTED SIGNS ARE TO BE SET IN FULL VIEW WITH THE BOTTOM OF THE SIGN NOT LESS THAN 7' NOR MORE THAN 10' ABOVE THE ADJACENT GRADE.
- SIGNS ARE TO BE PROFESSIONALLY MADE OF 3/4" EXTERIOR PLYWOOD. THE FIELD IS TO BE REFLECTORIZED ORANGE BEARING A BLACK LEGEND 6" IN HEIGHT AND A BLACK SOLID 1" BORDER SET 1 1/4" IN FROM THE EDGE.
- ANY SIGN WHICH IS DAMAGED FOR ANY REASON DURING THE TERM OF THE PROJECT IS TO BE IMMEDIATELY REPLACED.
- ANY MISSING SIGN SHALL REDUCE THE PAYMENT AT THE RATE OF THE PRO-RATED VALUE FOR THE LENGTH OF TIME THAT THE SIGN IS OUT OF SERVICE.
- TEXT IS TO BE 'SCOTCHCAL' OR EQUIVALENT PRESSURE SENSITIVE LETTERS OVER WHITE HEAT ACTIVATED ENGINEERING GRADE BACKGROUND OF SIMILAR MATERIAL. ALL TEXT IS TO BE 4" HIGH OR AS OTHERWISE NOTED.

- SIGNS AND SIGN POSTS ARE TO BE MOUNTED AND ESTABLISHED SO AS TO BE BOTH STURDY AND WIND RESISTANT. ONLY ADEQUATELY SIZED NUT, BOLT & WASHER FASTENERS SHALL BE USED. NO NAILS ARE TO BE USED TO FASTEN ANY SIGN, NOR SHALL ANY SIGN BE MOUNTED ON ANY TREE. THE SIGN LOCUS ON THESE PLANS REPRESENT THE MOST LIKELY LOCATIONS, HOWEVER, FINAL LOCATIONS AND/OR SUPPLEMENTAL SIGNS AND DRUMS SHALL BE LOCATED, RELOCATED, AND/OR PLACED AS THE OPERATIONAL PROCESS MAY NECESSITATE AND/OR AS DIRECTED BY THE ENGINEER.
- SIGNS SHALL BE PLACED IN THE MOST CONSPICUOUS LOCATIONS AS A MEANS FOR BOTH VEHICULAR AND PEDESTRIAN WARNING, HOWEVER, IN NO CASE SHALL ANY SIGN IMPEDE THE SIGHT LINE NOR INTERFERE WITH EITHER PEDESTRIAN AND/OR VEHICULAR TRAFFIC.

#### SPECIALTY SIGNS:

- SITE-MADE SIGNS: 'BLANKS' ARE TO HAND LETTERED ON SITE WITH EXTRA LARGE WATER PROOF PERMANENT FELT TIP MARKERS AND ARE TO BE WIRED TO BARRELS AND POSTED AS DIRECTED BY THE ENGINEER. THESE SIGNS ARE ONLY TO BE USED FOR MESSAGES WHICH ARE SITE SPECIFIC. AFTER EACH USE THE SIGN FIELD IS TO BE CLEANED WITH A SOLVENT AND PLACED AT THE READY.



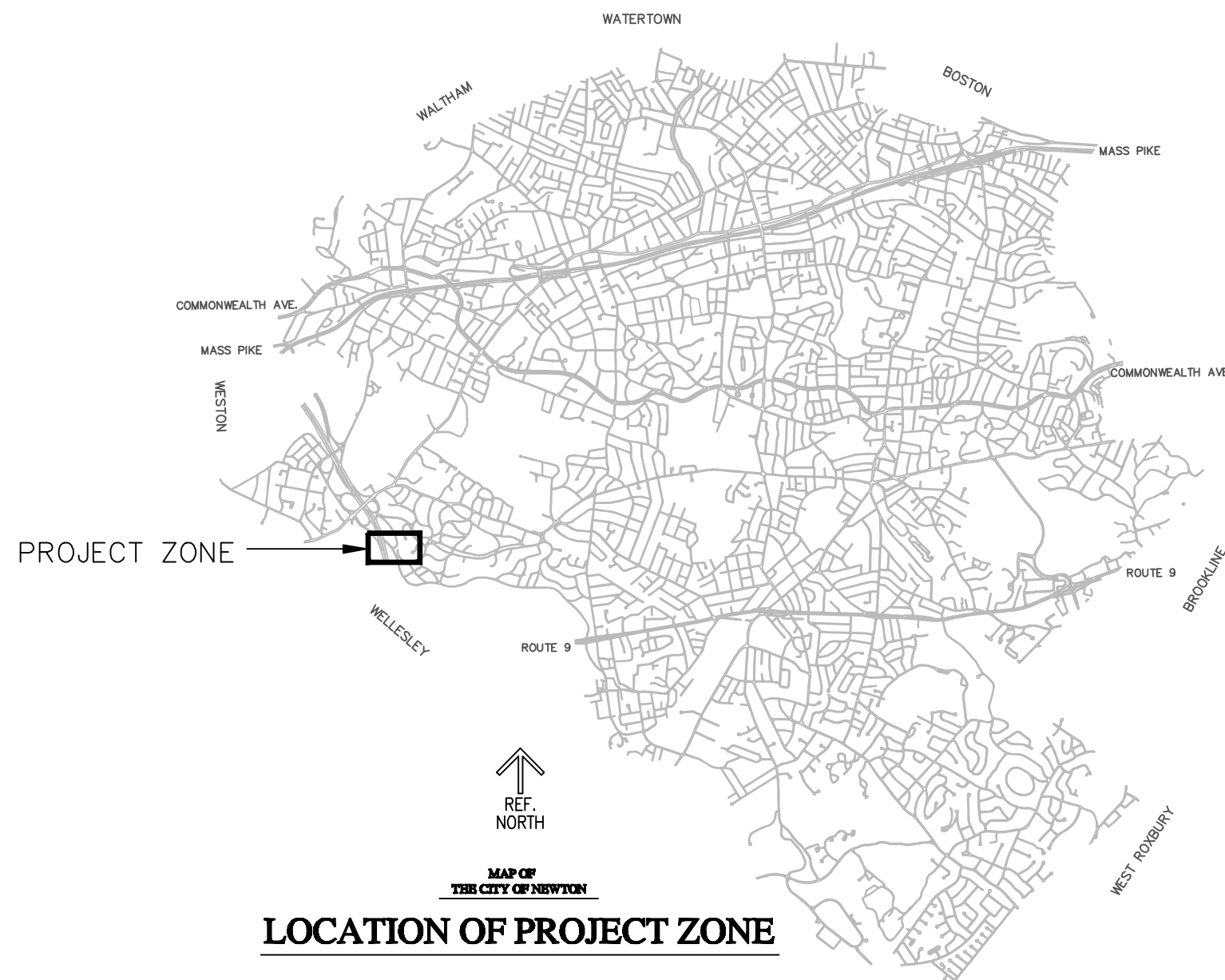
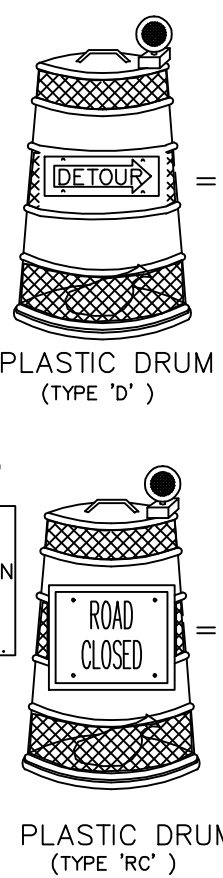
#### DRUM REQUIREMENTS:

- STANDARD (LOCUS NOT SHOWN. QUANTITY & LOCATIONS AS REQUIRED) 'RC' & 'D' TYPE (SEE ACCOMPANYING NOTES REGARDING THESE DEVICES) TO THE WRITTEN CONTRACT SPECIFICATIONS.
- THEY ARE TO BE PLASTIC DRUMS, COMPLYING WITH M.U.T.D. AND EQUIPPED WITH OPERATING TYPE 'C' FLASHERS.
- DRUMS ARE TO BE U.V. RESISTANT, LOW DENSITY, IMPACT RESISTANT POLYETHYLENE.
- REFLECTORIZED SHEETING IS TO BE OF AN APPROVED ORANGE AND WHITE TYPE IV SHEETING CONFORMING TO M.9.30.0
- MINIMUM WALL THICKNESS IS TO BE 3/32"
- MINIMUM DRUM DIAMETER SHALL BE 18"
- DRUMS SHALL BE APPROXIMATELY 36" IN HEIGHT
- ALL DRUMS SHALL BE MAINTAINED AND WHEN IT LOSES ITS TARGET VALUE (INCLUDING DUST BUILD-UP) IT IS TO BE REPLACED.
- ALL DRUMS ARE TO BE EQUIPPED WITH BASES THAT DO NOT DETACH WHEN THE DRUM IS DRAGGED AND EACH DRUM IS TO BE PROPERLY WEIGHTED TO FULLY RESIST 65 MPH WIND CONDITIONS.

THE 'RC' AND 'D' TYPE DRUM LOCATIONS THAT ARE SHOWN ON THESE PLANS DEPICT THE MINIMUM NUMBER OF RESPECTIVE PERIMETER DRUMS THAT MUST BE INITIALLY PLACED 'AT THE READY' TO CONTROL THE TRAFFIC FOR THAT SECTION OF ROADWAY WHICH IS ACTIVELY UNDER CONSTRUCTION. HOWEVER, THE NUMBER, TYPE & LOCATION OF DRUMS MAY VARY AS THE ENGINEER DEEMS NECESSARY, AND ONLY WHEN THE ENGINEER DIRECTS ARE THESE DRUMS BE MOVED TO THEIR NEW 'AT THE READY' LOCATIONS WITHIN THE SAME PROJECT ZONE, AND ONCE RELOCATED THEY ARE NOT TO BE MOVED FROM THAT RE-POSITIONED LOCATION UNTIL DIRECTED TO DO SO.

- AT THE BEGINNING OF EACH WORKDAY, AND/OR AS OTHERWISE DIRECTED THROUGHOUT THE COURSE OF THE WORKDAY, THE CONTRACTOR IS TO ESTABLISH AND MAINTAIN A WELL MARKED DETOUR ROUTE, AND IS TO FURTHER COORDINATE THIS EFFORT WITH THE ON-SITE POLICE DETAILS. ALL DETOUR ROUTES SHALL TAKE INTO CONSIDERATION BUS STOPS, BUS AND TRUCK TRAFFIC, SCHOOL CROSSINGS, BUSINESS TRAFFIC, ETC., AND ARE TO BE ESTABLISHED SO AS TO HAVE THE LEAST ADVERSE IMPACT ON THE AREA.
- 'RC' & 'D' TYPE ARE TO COMPLY WITH ALL DIRECTIVES LISTED FOR 'STANDARD TYPE' IN ADDITION TO THE FOLLOWING SPECIAL INSTRUCTIONS:

- DRUMS ARE TO BE ESTABLISHED FOR EACH PHASE AT EACH INTERSECTION PER THE ACCOMPANYING LOCUS PLAN, OR AS DIRECTED, AND ARE NOT TO BE REMOVED FROM THE DESIGNATED INTERSECTIONS FOR THE ENTIRE TERM OF THE PHASE BUT ARE TO BE LEFT 'AT THE READY' FOR IMMEDIATE ACCESS AND USE.
- THE REMOVABLE BOTTOMS OF SUCH DRUMS ARE TO BE PERMANENTLY ATTACHED TO THE DRUM SUCH THAT THE BASE WILL NOT SEPARATE FROM THE DRUM WHEN IT IS DRAGGED BUT YET WILL BREAK FREE IF HIT. FASTENERS ARE TO BE LIGHT DUTY. 'TIRE TYPE' WEIGHTS MAY BE USED IN LIEU OF FASTENED BOTTOMS.
- DRUMS ARE TO BE MOVED INTO AND OFF OF THE ROADWAY AS NECESSARY AND/OR AS DIRECTED, WHILE FULL SITE REMOVAL WILL BE AT THE DISCRETION OF THE ENGINEER.
- ONE SIGN IS TO BE PERMANENTLY FASTENED TO THE DRUM.
- SIGNS ARE TO BE ATTACHED TO THE DRUM WITH 3/8" HEAVY DUTY NUT, BOLT, AND FENDER WASHER FASTENERS WITH A MINIMUM OF FOUR EQUALLY SPACED FASTENERS PER SIGN.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING DAILY DETOURS TO THE SATISFACTION OF THE ENGINEER.



LOCATION OF PROJECT ZONE

## PLAN FOR THE INSTALLATION OF A SEWER HOUSE CONNECTION FORCE MAIN AT THE INTERSECTION OF QUINOBEQUIN RD. & EAST QUINOBEQUIN RD.

SCALE: AS NOTED APRIL 23, 2012

Louis. M. Taverna, P.E.  
CITY ENGINEER

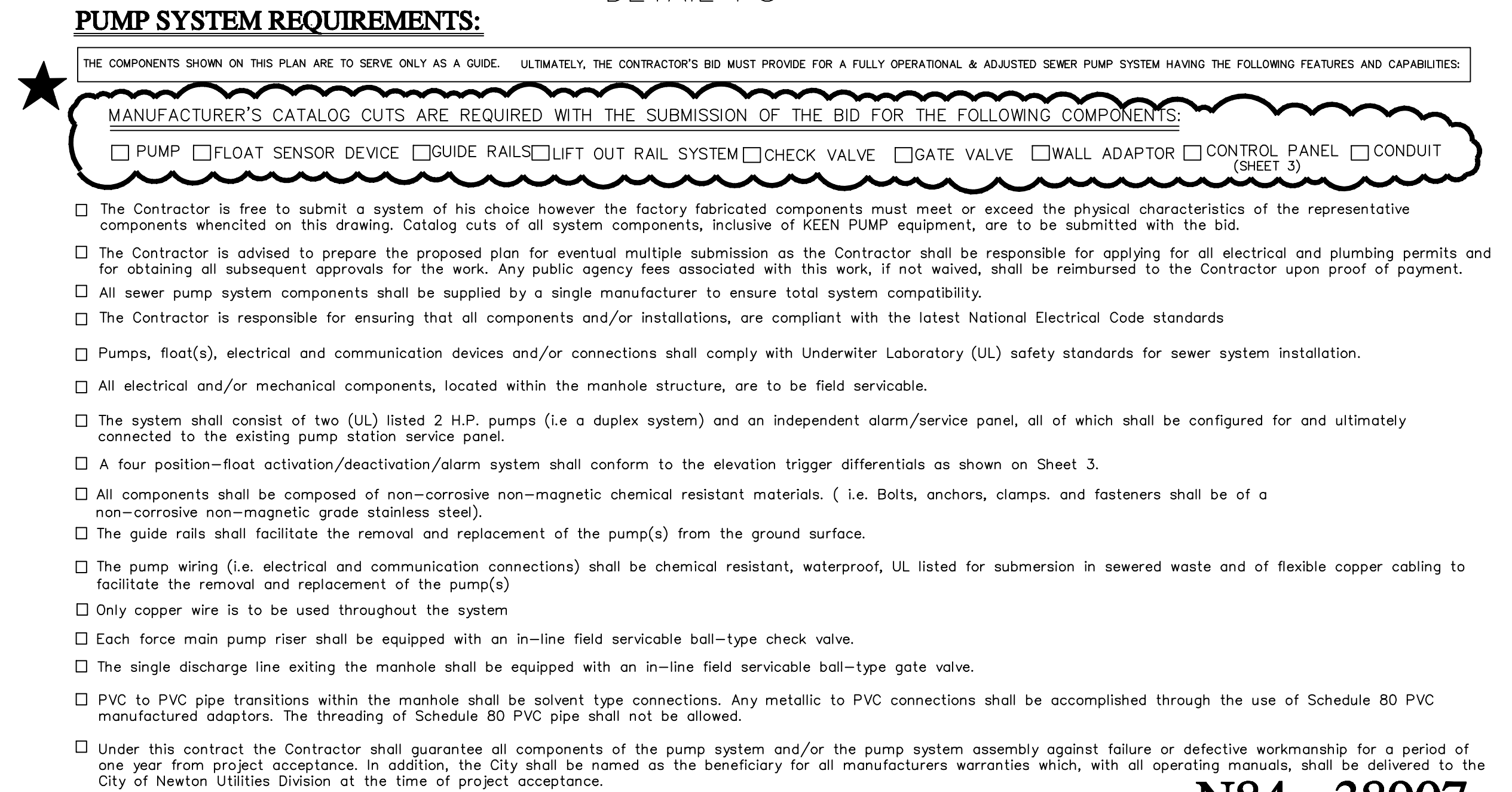
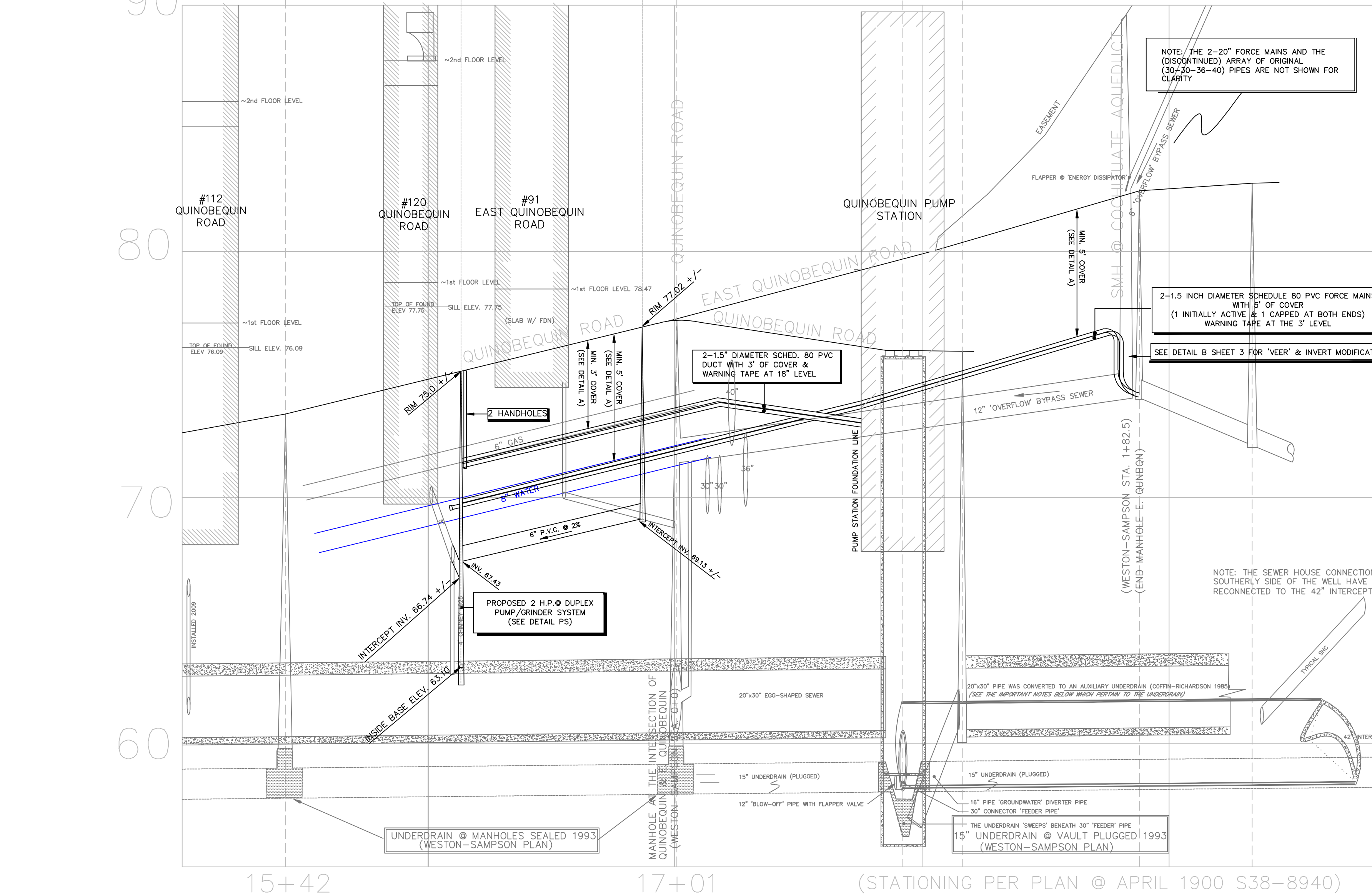
N84 - 38907  
SHEET 1 OF 3

INSTALLATION  
SHC FORCE MAIN

DESIGNED BY: F.R. L. F.N. M.B.  
DRAWN BY: *[Signature]*  
CHECKED BY:  
APPROVED BY:

FILED/REVISED







**IMPORTANT NOTE:**

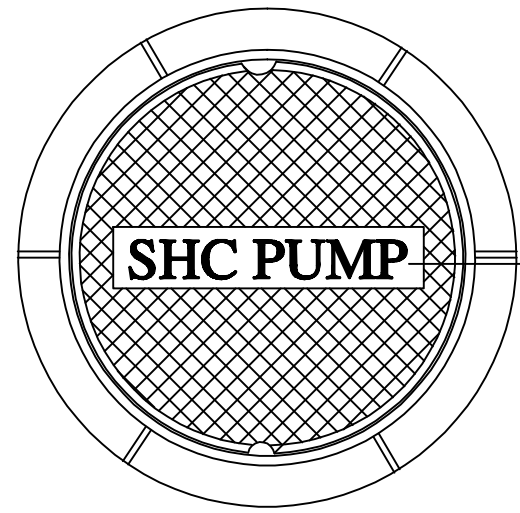
THE CONTRACTOR SHALL CORDON OFF AND/OR STEEL PLATE THE EXCAVATION, FOR THE PURPOSE OF PREVENTING BOTH VEHICULAR AND PEDESTRIAN INVOLVEMENT WITH THE EXCAVATION.

**IMPORTANT NOTE:**

THE CONTRACTOR SHALL CORDON OFF THE EXCAVATED MATERIAL WITH HAY BALES, AND SHALL CAREFULLY COVER THE PILE(S) WITH WEIGHTED TAPPS TO PREVENT EROSION AND SEDIMENTATION RUN-OFF. (LOCATION OF STOCKPILE SHALL BE DETERMINED IN THE FIELD & IS SUBJECT TO APPROVAL BY THE ENGINEER)

**IMPORTANT NOTE:**

THE CONTRACTOR IS ADVISED THAT DEWATERING OF THE PROPOSED SMH LOCATIONS MAY BE REQUIRED AND SHALL BE PERFORMED BY PERMIT ONLY. TO THAT END THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING FOR THE PERMIT AND FOR SUBSEQUENTLY WORKING CLOSELY WITH THE CONSERVATION COMMISSION IN THE EXECUTION OF THIS WORK.



(NON-STANDARD OVERSIZED) SEWER MANHOLE FRAME & COVER FOR SEWER PUMP SYSTEM MANHOLE

EQUIVALENT TO: MODEL 13281 @ HEAVY-DUTY AASHTO H20-H44 LOADING  
AS MANUFACTURED BY GENERAL FOUNDRIES INC.  
[www.generalfoundriesinc.com](http://www.generalfoundriesinc.com)

H2O LOADING

RIM ELEV. 75.00

ELECTRICAL @ 72.00

FORCE MAIN @ 70.00

INLET INV. #91 @ 67.43

INLET INV. #120 @ 66.74

INSIDE BASE ELEV. 63.10

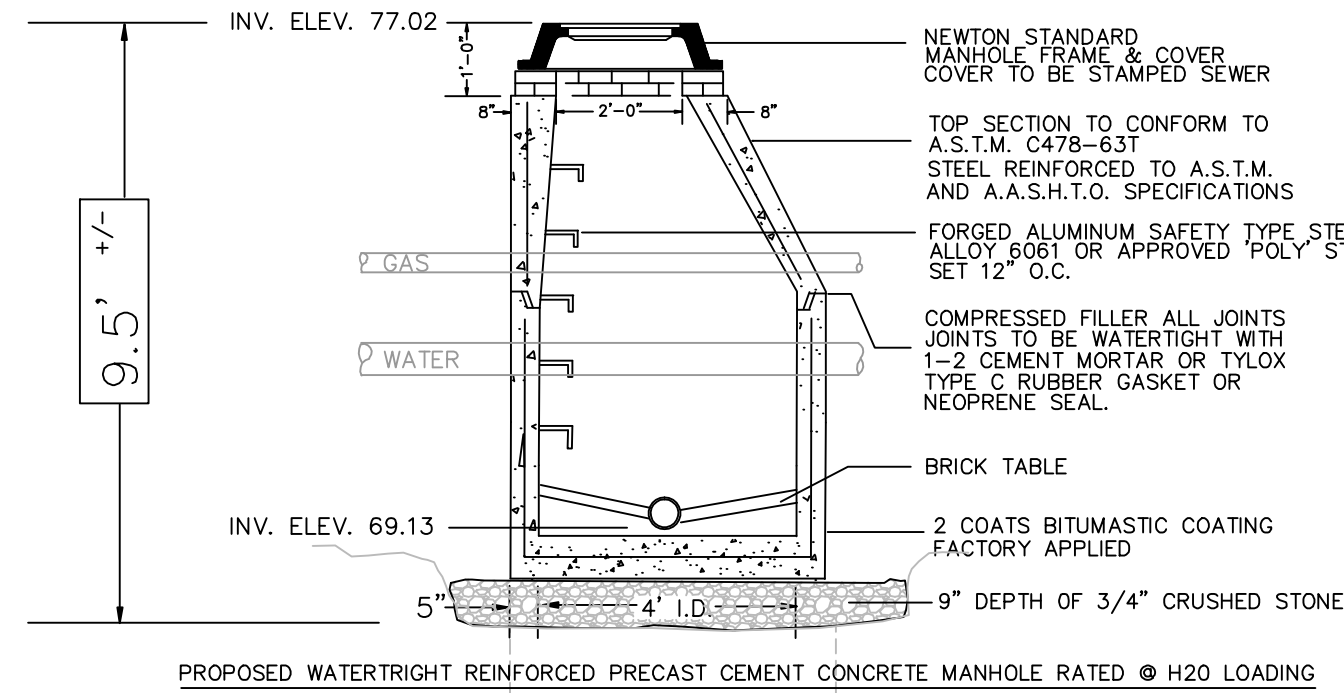
APPROX. BOT. EXCAVATION 61.50

PROPOSED 2 H.P. SEWER PUMP/GRINDER SYSTEM MANHOLE STRUCTURE @ H2O LOADING

NOTE: VIEW IS THRU SECTION A-A

**IMPORTANT NOTE:**

THE CONTRACTOR IS ADVISED THAT THE ELEVATIONS SHOWN ON THIS PLAN MAY BE ADJUSTED BASED UPON THE DISCOVERED ELEVATIONS OF THE TARGET SHC'S



PROPOSED WATERTIGHT REINFORCED PRECAST CEMENT CONCRETE MANHOLE RATED @ H2O LOADING

GUIDE RAILS SHALL EXTEND AND BE BOLTED TO THE TOP OF THE PRECAST FLAT-TOP

WATERTIGHT REINFORCED PRECAST CEMENT CONCRETE MANHOLE RATED @ H2O LOADING

NON-CORROSIVE FIELD FABRICATED BRACES

SANITARY TEE CLEANOUT & INTERIOR DROP

MANHOLE SHALL BE PROVIDED WITH FLEXIBLE BOOTS

BACK-UP HIGH ON LAG PUMP ON

ALARM ON

LEAD PUMP ON

PUMP OFF

4 SWITCH POSITIONS

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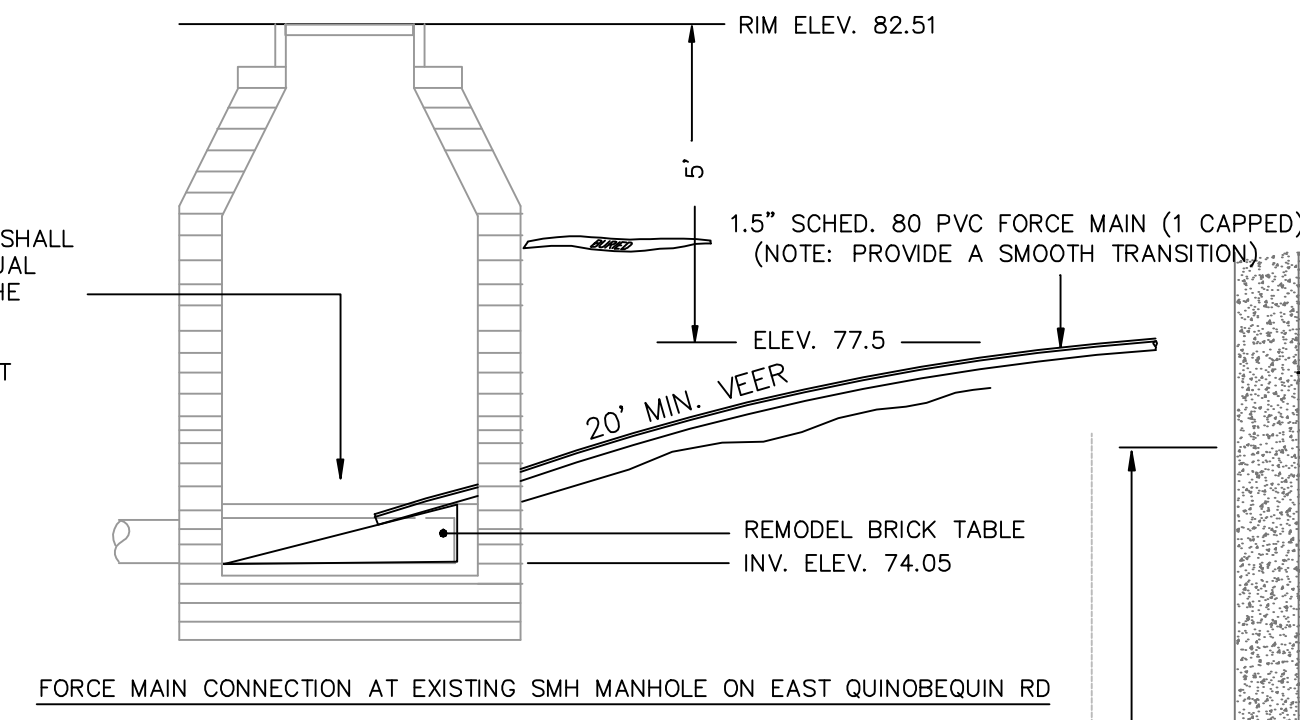
9\"/>

DETAIL C

AN EXPLORATORY EXCAVATION TO VERIFY ACTUAL INTERCEPT GRADE MUST BE PERFORMED PRIOR TO THE COMMENCEMENT OF OPERATIONS. THE PROPOSED GRADES SHALL BE ADJUSTED ACCORDINGLY.

NOTE A: THE EXISTING SHC'S SHALL NOT BE CUT AND PLUGGED UNTIL THE PROPOSED SEWER PUMP/GRINDER SYSTEM HAS BEEN FULLY INSTALLED, IS COMPLETELY OPERATIONAL, TESTED AND ACCEPTED BY ALL CONCERNED PARTIES

THE CONTRACTOR SHALL CLEAN ANY RESIDUAL MATERIAL FROM THE INVERT PRIOR TO INSTALLING THE PROPOSED CONDUIT



DETAIL B

FORCE MAIN CONNECTION AT EXISTING SMH MANHOLE ON EAST QUINOBEQUIN RD

WARNING TAPE SHALL BE INSTALLED OVER ALL CONDUIT

DETAIL E

APPROVED COVER AND FRAME SET ON TWO COURSES OF ADJUSTING BRICK

ROADWAY

WALKWAY

12\"/>

12\"/>

12\"/>

12\"/>

12\"/>

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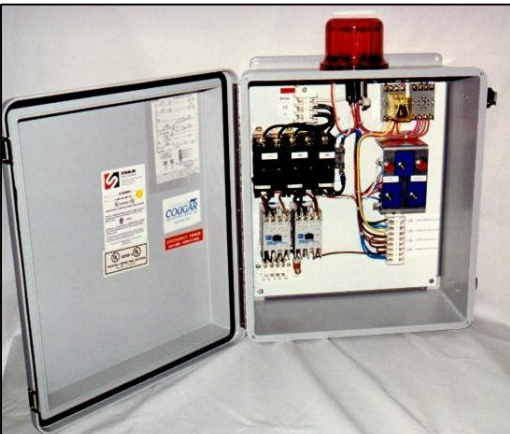
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(PLAN VIEW)

(ELEV. VIEW)

QUINOBEQUIN RD. PUMP STATION

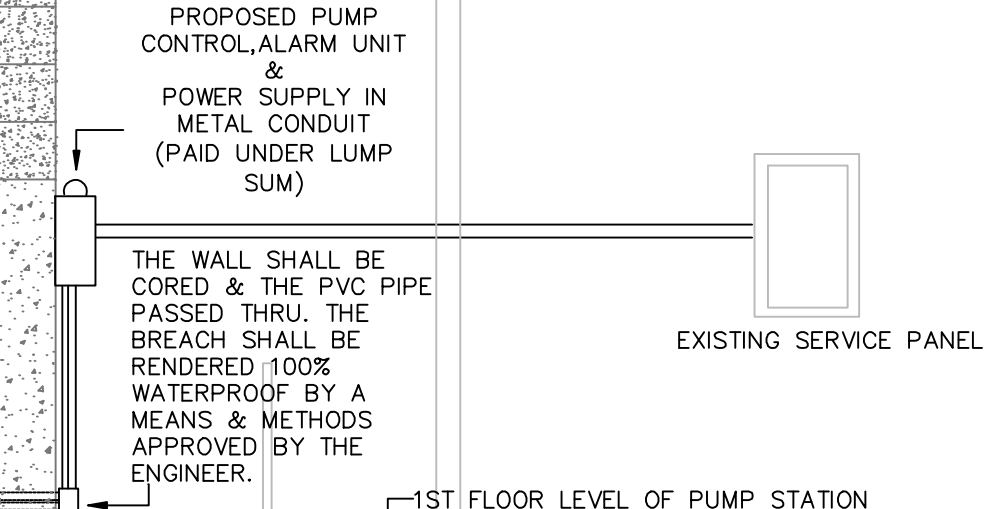


Generally: Three (3) Phase 2 wire Temperature Sensor System Integrated surge protection shall be provided to protect all system components Redundant Low Level Off Remote Dialer Lightning Arrestor UL 508A Serialized Labeling Main Disconnect Elapsed Time Meter (Per Pump)

REQUIRED - OPTIONAL FEATURES

**IMPORTANT NOTE:**

THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING AND/OR COORDINATING THE INTERIOR INSTALLATIONS WITH THE PUMP STATION MANAGEMENT AUTHORITY.



THE WALL SHALL BE CURED & THE PVC PIPE PASSED THRU. THE BREACH SHALL BE RENDERED 100% WATERPROOF BY A MEANS & METHODS APPROVED BY THE ENGINEER.

1ST FLOOR LEVEL OF PUMP STATION

EXISTING ELECTRICAL PVC

EXISTING 2\"/>

STAIRS DOWN

PUMP CHAMBER

12\"/>

12\"/>

12\"/>

12\"/>

12\"/>

12\"/>

12\"/>